

§ 29.1181

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system is causing the continuous discharge of any battery necessary for engine ignition.

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964, as amended by Amdt. 29–12, 41 FR 55473, Dec. 20, 1976]

POWERPLANT FIRE PROTECTION

§ 29.1181 Designated fire zones: regions included.

(a) Designated fire zones are—

(1) The engine power section of reciprocating engines;

(2) The engine accessory section of reciprocating engines;

(3) Any complete powerplant compartment in which there is no isolation between the engine power section and the engine accessory section, for reciprocating engines;

(4) Any auxiliary power unit compartment;

(5) Any fuel-burning heater and other combustion equipment installation described in § 29.859;

(6) The compressor and accessory sections of turbine engines; and

(7) The combustor, turbine, and tailpipe sections of turbine engine installations except sections that do not contain lines and components carrying flammable fluids or gases and are isolated from the designated fire zone prescribed in paragraph (a)(6) of this section by a firewall that meets § 29.1191.

(b) Each designated fire zone must meet the requirements of §§ 29.1183 through 29.1203.

[Amdt. 29–3, 33 FR 970, Jan. 26, 1968, as amended by Amdt. 29–26, 53 FR 34219, Sept. 2, 1988]

§ 29.1183 Lines, fittings, and components.

(a) Except as provided in paragraph (b) of this section, each line, fitting, and other component carrying flammable fluid in any area subject to engine fire conditions and each component which conveys or contains flammable fluid in a designated fire zone must be fire resistant, except that flammable fluid tanks and supports in a designated fire zone must be fireproof or be enclosed by a fireproof shield unless damage by fire to any non-fireproof part will not cause leakage or spillage of flammable fluid. Components

must be shielded or located so as to safeguard against the ignition of leaking flammable fluid. An integral oil sump of less than 25-quart capacity on a reciprocating engine need not be fireproof nor be enclosed by a fireproof shield.

(b) Paragraph (a) of this section does not apply to—

(1) Lines, fittings, and components which are already approved as part of a type certificated engine; and

(2) Vent and drain lines, and their fittings, whose failure will not result in or add to, a fire hazard.

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964, as amended by Amdt. 29–2, 32 FR 6914, May 5, 1967; Amdt. 29–10, 39 FR 35463, Oct. 1, 1974; Amdt. 29–22, 49 FR 6850, Feb. 23, 1984]

§ 29.1185 Flammable fluids.

(a) No tank or reservoir that is part of a system containing flammable fluids or gases may be in a designated fire zone unless the fluid contained, the design of the system, the materials used in the tank and its supports, the shutoff means, and the connections, lines, and controls provide a degree of safety equal to that which would exist if the tank or reservoir were outside such a zone.

(b) Each fuel tank must be isolated from the engines by a firewall or shroud.

(c) There must be at least one-half inch of clear airspace between each tank or reservoir and each firewall or shroud isolating a designated fire zone, unless equivalent means are used to prevent heat transfer from the fire zone to the flammable fluid.

(d) Absorbent material close to flammable fluid system components that might leak must be covered or treated to prevent the absorption of hazardous quantities of fluids.

§ 29.1187 Drainage and ventilation of fire zones.

(a) There must be complete drainage of each part of each designated fire zone to minimize the hazards resulting from failure or malfunction of any component containing flammable fluids. The drainage means must be—

(1) Effective under conditions expected to prevail when drainage is needed; and